

US 20140241558A1

(19) United States

(12) Patent Application Publication YLIAHO et al.

(10) **Pub. No.: US 2014/0241558 A1**(43) **Pub. Date:** Aug. 28, 2014

(54) MULTIPLE AUDIO DISPLAY APPARATUS AND METHOD

- (71) Applicant: **NOKIA CORPORATION**, Espoo (FI)
- (72) Inventors: Marko Tapani YLIAHO, Tampere (FI); Juha Reinhold BACKMAN, Espoo (FI)
- (73) Assignee: Nokia Corporation, Espoo (FI)
- (21) Appl. No.: 13/778,447
- (22) Filed: Feb. 27, 2013

Publication Classification

(51) Int. Cl. *H04R 1/02* (2006.01)

(57) ABSTRACT

An apparatus including at least two speakers and at least one controller. Each speaker includes at least one vibrating element, and one or more display elements. The vibrating elements are configured to at least partially move the one or more display elements to generate sound waves from the one or more display elements. The at least one controller is connected to the vibrating elements of the at least two speakers and the one or more display elements. The at least one image on the one or more display elements, and/or control driving of the vibrating elements to generate sounds from at least one of the at least two speakers.

